

**Abstract of the Disclosure**

Stiffness and other properties of a wood member, such as a log, can be determined by excitation with a swept frequency sonic pulse followed by measurement of the resonant frequency by an accelerometer in contact with the log. It is desirable to minimize the sweep range in order to utilize the power in the sonic pulse to the maximum effect. This should be centered about the expected resonant frequency and is typically no more than about 300 HZ either side of the expected frequency. The resonant frequency is dependent principally on wood species and length. By first measuring length and inputting this into the associated software the sweep range can be controlled to achieve the maximum output signal. Time duration of the sweep is typically no longer than about 0.2 seconds and can be considerably shorter.